

### REMARKS

The final Office Action rejects claims 1, 2, 8, 10-12, and 17-19 under 35 U.S.C. § 102(e) as anticipated by WEBER (U.S. Patent No. 6,434,524); rejects claims 3, 4, 9, 13, and 14 under 35 U.S.C. § 103(a) as unpatentable over WEBER in view of MAHAJAN et al. (U.S. Patent No. 6,418,431); rejects claims 15 and 16 under 35 U.S.C. § 103(a) as unpatentable over WEBER in view of PADMANABHAN et al. (U.S. Patent No. 6,385,579); allows claims 20-24; and objects to claims 5-7 as containing allowable subject matter. Applicants respectfully traverse the rejections under 35 U.S.C. §§ 102 and 103. Claims 1-24 remain pending.

### ALLOWABLE SUBJECT MATTER

Applicants note with appreciation the indication that claims 20-24 are allowable over the art of record and that claims 5-7 would be allowable if rewritten into independent form to include all the features of the base claim and any intervening claims.

### REJECTION UNDER 35 U.S.C. § 102 BASED ON WEBER

Claims 1, 2, 8, 10-12, and 17-19 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by WEBER. Applicants respectfully traverse this rejection.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. See M.P.E.P. § 2131. WEBER does not disclose or suggest at least one feature recited in claims 1, 2, 8, 10-12, and 17-19.

For example, independent claim 1 is directed to a method for providing search results. The method includes receiving a voice search query from a user; deriving one or

more recognition hypotheses from the voice search query, where each recognition hypothesis is associated with a weight; constructing a weighted boolean query using the recognition hypotheses; providing the weighted boolean query to a search system; and providing results of the search system. WEBER does not disclose or suggest at least one of these features.

For example, WEBER does not disclose or suggest constructing a weighted boolean query using the recognition hypotheses. The final Office Action alleges that WEBER's possible matching entries in natural language processing (NLP) database 218 correspond to the recited recognition hypotheses (final Office Action, pg. 3) and relies on col. 11, lines 39-49, which describes Step 348 in Fig. 3C, of WEBER for allegedly disclosing the above feature of claim 1 (final Office Action, pg. 3). Applicants submit that this section of WEBER does not disclose or suggest the above feature of claim 1.

At col. 11, lines 39-49, WEBER discloses:

The nature of the test performed at decision 348 is a boolean "AND" test performed by boolean tester 210. The test determines whether each one of the non-noise words in the phrase (or its synonym) is actually present in the highest-confidence entry. If there are a sufficient number of required words actually present in the highest-confidence entry, then the flow proceeds to block 350, where the natural language processor 202 directs application interface 220 to take an associated action from column 408 or 410. It is understood that additional action columns may also be present.

This section of WEBER discloses that the non-noise words of a received phrase are compared to the words in the highest-confidence entry from NLP database 218. As set forth above, the final Office Action alleges that the possible matching entries in NLP database 218 correspond to the recognition hypotheses, recited in Applicants' claim 1. With this interpretation in mind, this section of WEBER does not disclose or suggest

constructing a weighted boolean query using the possible matching entries in NLP database 218, as would be required by the final Office Action's interpretation of Applicants' claim 1. Instead, this section of WEBER merely discloses matching words in a received phrase to the entry in NLP database 218 that matches the phrase with the highest confidence. One skilled in the art would clearly recognize that this is quite different from constructing a weighted boolean query using the possible matching entries in NLP database 218. WEBER does not disclose or suggest such a feature.

The final Office Action also appears to rely on col. 10, lines 49-61, which describes Step 338 of Fig. 3B, of WEBER for allegedly disclosing constructing a weighted boolean query using the recognition hypotheses, as required by claim 1 (Office Action, pg. 3). Applicants submit that this section of WEBER does not disclose or suggest this feature of claim 1.

At col. 10, lines 49-61, WEBER discloses:

At block 338, a confidence value is generated for each of the possible matching entries based on the number of occurrences of each of the words in the phrase and their relative weights. Weighted word searching of a database is well known in the art and may be performed by commercially available search engines such as the product "dtsearch" by DT Software, Inc. of Arlington, Va. Likewise, searching using synonyms is well known in the art and may be accomplished using such publicly available tools such as "WordNet," developed by the Cognitive Science Laboratory of Princeton University in Princeton, N.J. The search engine may be an integral part of the natural language processor 202

This section of WEBER discloses that a confidence value is generated for each possible matching entry in NLP database 218. This section of WEBER in no way discloses or suggests, however, constructing a weighted boolean query using the possible matching

entries in NLP database 218, as would be required by the final Office Action's interpretation of Applicants' claim 1.

Also, for the first time in the final Office Action, col. 10, lines 17-30, of WEBER is relied on for also allegedly disclosing the above feature of claim 1 (final Office Action, pp. 3-4). Applicants submit that this section of WEBER does not disclose or suggest constructing a weighted boolean query using the recognition hypotheses, as required by claim 1.

At col. 10, lines 17-30, WEBER discloses:

In block 334, the individual words in the phrase are weighted according to their relative "importance" or "significance" to the overall meaning of the phrase by word weighter 208. For example, in one embodiment there are three weighting factors assigned. The lowest weighting factor is assigned to words such as "a", "an", "the" and other articles. The highest weighting factor is given to words that are likely to have a significant relation to the meaning of the phrase. For example, these may include all verbs, nouns, adjectives, and proper names in the NLP database 218. A medium weighting factor is given to all other words in the phrase. This weighting allows more powerful searching of the NLP database 218.

This section of WEBER discloses assigning weights to individual words in a phrase that is being formatted for natural language processing analysis (see col. 9, lines 34, to col. 10, line 30). The weighted words in the phrase are then used to search the NLP database for possible matches (see col. 10, lines 45-49). As set forth above, the final Office Action alleges that the possible matching entries in NLP database 218 correspond to the recognition hypotheses, recited in Applicants' claim 1 (see pg. 3 of the final Office Action). With this interpretation in mind, this section of WEBER does not disclose or suggest constructing a weighted boolean query using the possible matching entries in NLP database 218, as would be required by the final Office Action's interpretation of

Applicants' claim 1. Instead, this section of WEBER merely discloses weighting words in a received phrase and searching the NLP database for possible matches. One skilled in the art would clearly recognize that this is quite different from constructing a weighted boolean query using the possible matching entries in NLP database 218. WEBER does not disclose or suggest such a feature. The final Office Action has not pointed to any section of WEBER that discloses this feature.

Further with respect to this feature of claim 1, the final Office Action alleges that WEBER does indeed disclose "constructing weighted boolean queries" (final Office Action, pp. 10-11). Regardless of the veracity of this allegation, Applicants' claim 1 does not merely recite "constructing weighted boolean queries." Instead, Applicants' claim 1 specifically recites constructing a weighted boolean query using the recognition hypotheses. The final Office Action continues to ignore portions of this feature. As set forth above, WEBER in no way discloses or suggests constructing a weighted boolean query using the recognition hypotheses, as required by claim 1.

Since WEBER does not disclose constructing a weighted boolean query using recognition hypotheses, WEBER cannot disclose providing the weighted boolean query to a search system, as also required by claim 1. With respect to this feature, the final Office Action alleges "'means for providing the weighted boolean query to a search system' – searching of the databases for information about news, stocks, weather, movies, and web pages is performed by boolean 'AND' search logic for each of the words in the phrase (or its synonym)" (Office Action, pp. 3-4). Applicants respectfully disagree.

WEBER discloses that a received phrase is compared to entries in NLP database 218 and confidence values are determined for each possible matching entry (col. 10, lines 45-61). The confidence values are then compared to a threshold (col. 10, line 62, to col. 11, line 10). If an entry in NLP database 218 exists whose confidence value is greater than the threshold, then noise words are removed from the phrase (col. 11, lines 11-23). It is then determined if a required number of remaining non-noise words are present in the entry from NLP database 218 (col. 11, lines 24-43). If the required number of non-noise words is present in the entry, then natural language processor 202 directs application interface 220 to take an associated action, such as accessing a movie web site, directing a text-to-speech application to speak the present time, accessing a predetermined news web site (col. 11, lines 43-67). Contrary to the allegation in the final Office Action, WEBER does not disclose or suggest providing a weighted boolean query that was constructed using recognition hypotheses to a search system, as required by claim 1.

The allegations in the final Office Action regarding WEBER disclosing the ability to search databases for news, stocks, weather, movies, and web pages (final Office Action, pp. 11-12) do not address the specifically recited feature of providing a weighted boolean query that was constructed using recognition hypotheses to a search system that is required by claim 1.

For at least the foregoing reasons, Applicants submit that claim 1 is not anticipated by WEBER.

Claims 2, 8, and 10-12 depend from claim 1. Therefore, these claims are not anticipated by WEBER for at least the reasons given above with respect to claim 1. Moreover, these claims recite additional features not disclosed or suggested by WEBER.

For example, claim 8 recites that the providing results of the search system includes adjusting a ranking of the results of the search system based on the weights. With respect to this feature, the final Office Action alleges "weighting individual words in a phrase according to their importance is equivalent to 'adjusting a ranking of the results of the search system based on the weights'" (final Office Action, pg. 5). Applicants respectfully disagree.

As set forth above, the final Office Action alleges that the "search system," required by Applicants' claim 1, is equivalent to WEBER's alleged teaching of searching databases for information about news, stocks, weather, movies, and web pages (final Office Action, pg. 4). With respect to the feature recited in claim 8, however, the final Office Action appears to allege that the recited "search system" corresponds to searching NLP database for entries matching the received phrase. This clearly contradicts the final Office Action's allegations with respect to claim 1, from which claim 8 depends.

Nonetheless, if the final Office Action is now alleging that the possible matching entries in NLP database 218 correspond to the results obtained by the search system, recited in claim 1, WEBER does not disclose or suggest adjusting a ranking of the possible matching entries from database 218. Instead, as set forth above, WEBER discloses that a received phrase is compared to entries in NLP database 218 and confidence values determined for each possible matching entry (col. 10, lines 45-61).

The confidence values are then compared to a threshold (col. 10, line 62, to col. 11, line 10). If an entry in NLP database 218 exists whose confidence value is greater than the threshold, then noise words are removed from the phrase (col. 11, lines 11-23). It is then determined if a required number of remaining non-noise words are present in the entry from NLP database 218 (col. 11, lines 24-43). If the required number of non-noise words is present in the entry, then natural language processor 202 directs application interface 220 to take an associated action, such as accessing a movie web site, directing a text-to-speech application to speak the present time, accessing a predetermined news web site (col. 11, lines 43-67). Contrary to the allegation in the final Office Action, WEBER does not disclose or suggest that providing a highest-confidence entry from NLP database 218 is in any way equivalent to adjusting a ranking of the results of the search system based on the weights, as required by claim 8.

Further with respect to this feature, the final Office Action alleges "assigning weights to individual words in a search phrase adjusts a ranking of search results" (final Office Action, pg. 12). The final Office Action does not logically explain how this allegation relates to the WEBER disclosure or the above feature recited in claim 8. Claim 8 does not recite assigning weights to individual words in a search phrase to adjust a ranking of search results. Instead, claim 8 specifically recites that the providing results of the search system includes adjusting a ranking of the results of the search system based on the weights. The final Office Action does not point to any section of WEBER that discloses this feature.



For at least these additional reasons, Applicants submit that claim 8 is not anticipated by WEBER.

Independent claims 17-19 recite features similar to features recited above with respect to claim 1. Therefore, Applicants submit that these claims are not anticipated by WEBER for reasons similar to reasons given above with respect to claim 1.

REJECTION UNDER 35 U.S.C. § 103 BASED ON WEBER AND MAHAJAN ET AL.

Claims 3, 4, 9, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over WEBER in view of MAHAJAN et al. Applicants respectfully traverse this rejection.

Claims 3, 4, 9, 13, and 14 depend from claim 1. Applicants submit that the disclosure of MAHAJAN et al. does not remedy the deficiencies in the disclosure of WEBER set forth above with respect to claim 1. For example, the disclosure of MAHAJAN et al. does not disclose or suggest constructing a weighted boolean query using recognition hypotheses. Therefore, claims 3, 4, 9, 13, and 14 are patentable over WEBER and MAHAJAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Moreover, these claims recite additional features that are neither disclosed nor suggested by the combination of WEBER and MAHAJAN et al.

For example, claim 13 recites determining a quantity of results related to each recognition hypothesis and discarding recognition hypotheses having no results. With respect to these features, the final Office Action alleges that "*Mahajan et al.* teaches adapting a language model based on the information retrieved as a result of the executed

query" and points to col. 8, lines 16-53, of MAHAJAN et al. for support (final Office Action, pg. 8). Regardless of the veracity of the Examiner's allegation, the allegation in no way addresses the features recited in claim 13. That is, the final Office Action does not logically explain how this alleged teaching of MAHAJAN et al. in any way relates to the features recited in Applicants' claim 13.

Further with respect to claim 13, the final Office Action alleges "*Weber* ('524) discloses that phrases having no matching entry with a confidence value greater than a threshold have zero hits, and produce an error message" and points to col. 11, lines 1-10, of WEBER for support (final Office Action, pg. 8). Regardless of the veracity of this allegation, the allegation in no way addresses the features recited in claim 13. That is, the final Office Action does not logically explain how this alleged teaching of WEBER in any way relates to the features recited in Applicants' claim 13.

Further with respect to this feature, the final Office Action alleges that "[a]dapt[ing] a language model involves adjusting weights of a language model in accordance with the number to times a term is used to improve performance of the language model. Thus, adapting a language model begins by determining a number of times a word or phrase of a language model is used. This is equivalent to 'determining a quality of results related to each recognition hypothesis'" (final Office Action, pg. 13). Applicants disagree.

At the outset, Applicants note that the final Office Action does not point to any section of MAHAJAN et al. that supports the definition of "adapting a language model" that is provided in the final Office Action. If this rejection is maintained, Applicants request that the section or sections of MAHAJAN et al. that defines the act of adapting a

language model be specifically pointed out or a reference provided that supports this definition.

Moreover, even assuming, for the sake of argument, that the definition of "adapting a language model" set forth in the final Office Action is correct (a point that Applicants do not concede), the final Office Action does not explain why one skilled in the art would construe the act of determining a number of times a word or phrase of a language model is used to be equivalent to determining a quality of results related to each recognition hypothesis. As such, a *prima facie* case of obviousness has not been established with respect to claim 13.

For at least these additional reasons, Applicants submit that claim 13 is patentable over WEBER and MAHAJAN et al., whether taken alone or in any reasonable combination.

Claim 14 recites determining a quantity of results related to each recognition hypothesis and adjusting the weight associated with the recognition hypothesis based on the quantity. With respect to these features, the final Office Action alleges that "*Mahajan et al.* teaches adapting a language model based on the information retrieved as a result of the executed query" and points to col. 8, lines 16-53, of MAHAJAN et al. for support (final Office Action, pg. 8). Regardless of the veracity of this allegation, the allegation in no way addresses the features recited in claim 14. That is, the final Office Action does not logically explain how this alleged teaching of MAHAJAN et al. in any way relates to the features recited in Applicants' claim 14.

Further with respect to claim 14, the final Office Action alleges "*Weber* ('524) discloses that phrases having no matching entry with a confidence value greater than a threshold have zero hits, and produce an error message" and points to col. 11, lines 1-10, of WEBER for support (final Office Action, pg. 8). Regardless of the veracity of the this allegation, the allegation in no way addresses the features recited in claim 14. That is, the final Office Action does not logically explain how this alleged teaching of WEBER in any way relates to the features recited in Applicants' claim 14.

Since the final Office Action did not address the specific features recited in claim 14, a *prima facie* case of obviousness has not been established with respect to claim 14.

For at least these additional reasons, Applicants submit that claim 14 is patentable over WEBER and MAHAJAN et al., whether taken alone or in any reasonable combination.

REJECTION UNDER 35 U.S.C. § 103 BASED ON WEBER  
AND PADMANABHAN ET AL.

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over WEBER in view of PADMANABHAN et al. Applicants respectfully traverse this rejection.

Claims 15 and 16 depend from claim 1. Applicants submit that the disclosure of PADMANABHAN et al. does not remedy the deficiencies in the disclosure of WEBER set forth above with respect to claim 1. Therefore, claims 15 and 16 are patentable over WEBER and PADMANABHAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1.

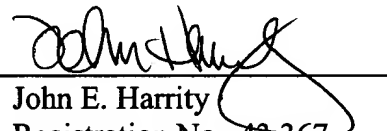
CONCLUSION

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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